



a xylem brand

YSI Safety Data Sheet (SDS)
OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03.

Issue date 06/03/2015

Reviewed on 06/03/2015

*** 1 Identification**

- **Product identifier**
- **Trade name: Cyanide ISE Ionic Strength Adjuster Solution**
- **Product number: 400405**
- **Relevant identified uses of the substance or mixture and uses advised against**
- **Product description** 10M NaOH Sodium Hydroxide
- **Application of the substance / the mixture** Buffers, Filling & Calibration Solutions
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
1725 Brannum Lane
Yellow Springs, OH 45387
Phone: (937) 767-7241
Email: MSDSinfo@ysi.com website: ysi.com
- **Emergency Contact information:** Chemtrec: (US & Canada) 800-424-9300; (International) 001 703-527-3887

*** 2 Hazard(s) identification**

- **Classification of the substance or mixture**



GHS05 Corrosion

Skin Corr. 1A H314 Causes severe skin burns and eye damage.

Eye Dam. 1 H318 Causes serious eye damage.

- **Label elements**
- **GHS label elements**
The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS05

- **Signal word** Danger
- **Hazard-determining components of labeling:**
Sodium Hydroxide
- **Hazard statements**
Causes severe skin burns and eye damage.
- **Precautionary statements**
Do not breathe dusts or mists.
Wear eye protection / face protection.
Wash thoroughly after handling.
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a poison center/doctor.
Specific treatment (see supplementary first aid instructions on this Safety Data Sheet).
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
Wash contaminated clothing before reuse.
If swallowed: Rinse mouth. Do NOT induce vomiting.
Store locked up.

(Contd. on page 2)

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Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



- **HMIS-ratings (scale 0 - 4)**

| | | |
|------------|---|----------------|
| HEALTH | 3 | Health = 3 |
| FIRE | 0 | Fire = 0 |
| REACTIVITY | 0 | Reactivity = 0 |

- **Hazard(s) not otherwise classified (HNOC):** None known

* **3 Composition/information on ingredients**

| | | |
|-----------|-----------------------------------------|--------|
| 7732-18-5 | water, distilled water, deionized water | 70-90% |
|-----------|-----------------------------------------|--------|

- **Chemical characterization: Mixtures**
- **Description:** Mixture of substances listed below with nonhazardous additions.

- **Dangerous Components:**

| | | | |
|-----------|------------------|---------------------|--------|
| 1310-73-2 | Sodium Hydroxide | Skin Corr. 1A, H314 | 25-50% |
|-----------|------------------|---------------------|--------|

* **4 First-aid measures**

- **Description of first aid measures**
- **General information:** Immediately remove any clothing soiled by the product.
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:**
Immediately wash with water and soap and rinse thoroughly.
If skin irritation occurs, consult a doctor.
- **After eye contact:**
Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Get medical attention.
- **After swallowing:**
Do not induce vomiting.
Drink copious amounts of water and provide fresh air. Immediately call a doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed:** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

* **5 Fire-fighting measures**

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:**
As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.

(Contd. on page 3)

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Trade name: Cyanide ISE Ionic Strength Adjuster Solution*** 6 Accidental release measures****· Personal precautions, protective equipment and emergency procedures**

Ensure adequate ventilation

Avoid contact with skin, eyes and clothing.

Wear protective equipment. Keep unprotected persons away.

· Environmental precautions: Do not allow to enter sewers/ surface or ground water.**· Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (i.e. sand, diatomite, acid binders, universal binders, sawdust).

Use neutralizing agent.

Dispose contaminated material as waste according to section 13.

Ensure adequate ventilation.

Dispose of the collected material according to regulations.

· Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

*** 7 Handling and storage****· Handling:****· Precautions for safe handling**

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

· Information about protection against explosions and fires: No special measures required.**· Conditions for safe storage, including any incompatibilities****· Storage:****· Requirements to be met by storerooms and receptacles:** No special requirements.**· Information about storage in one common storage facility:** Not required.**· Further information about storage conditions:** Keep receptacle tightly sealed.**· Specific end use(s)** No further relevant information available.*** 8 Exposure controls/personal protection****· Additional information about design of technical systems:** No further data; see section 7.**· Control parameters**

All ventilation should be designed in accordance with OSHA standard (29 CFR 1910.94). Use mechanical (general) ventilation for storage areas. Use appropriate ventilation as required to keep Exposure Limits in Air below TLV & PEL limits.

· Components with occupational exposure limits:**1310-73-2 Sodium Hydroxide**

| | |
|-----|------------------------------------------|
| PEL | Long-term value: 2 mg/m ³ |
| REL | Ceiling limit value: 2 mg/m ³ |
| TLV | Ceiling limit value: 2 mg/m ³ |

· Additional information: The lists that were valid during the creation of this SDS were used as basis.**· Exposure controls****· Personal protective equipment:****· General protective and hygienic measures:**

The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages and feed.

(Contd. on page 4)

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Issue date 06/03/2015

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Immediately remove all soiled and contaminated clothing and wash before reuse.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

· **Breathing equipment:**



Suitable respiratory protective device recommended.

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Select glove material based on penetration times, rates of diffusion and degradation.

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material cannot be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**

The exact break-through time has to be determined and observed by the manufacturer of the protective gloves.

· **Eye protection:**



Tightly sealed goggles

· **Body protection:**



Protective work clothing

* **9 Physical and chemical properties**

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form:

Liquid

Color:

Clear, colorless

· **Odor:**

Odorless

· **Odor threshold:**

Not determined.

· **pH-value @ 20 °C (68 °F):**

> 13.5

· **Change in condition**

Melting point/Melting range:

Not determined.

Boiling point/Boiling range:

100 °C (212 °F)

(Contd. on page 5)

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- **Flash point:** Not applicable.
- **Flammability (solid, gaseous):** Not applicable.
- **Ignition temperature:**
- **Decomposition temperature:** Not determined.
- **Auto igniting:** Product is not self-igniting.
- **Danger of explosion:** Product does not present an explosion hazard.
- **Explosion limits:**
- **Lower:** 0.0 Vol %
- **Upper:** 0.0 Vol %
- **Vapor pressure @ 20 °C (68 °F):** 23 hPa (17 mm Hg)
- **Density @ 20 °C (68 °F):** 1.323 g/cm³ (11.04 lbs/gal)
- **Relative density** Not determined.
- **Vapor density** Not determined.
- **Evaporation rate** Not determined.
- **Solubility in / Miscibility with Water:** Fully miscible.
- **Partition coefficient (n-octanol/water):** Not determined.
- **Viscosity:**
- **Dynamic:** Not determined.
- **Kinematic:** Not determined.
- **Solvent content:**
- **Organic solvents:** 0.0 %
- **Water:** 70-90 %
- **Solids content:** 25-50 %
- **Other information** No further relevant information available.

*** 10 Stability and reactivity**

- **Reactivity** No further relevant information available.
- **Chemical stability** Stable under normal conditions.
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:**
Strong bases, strong oxidizing agents, Nitro compounds, reactive metals (Zinc & Aluminum) and their alloyps (Brass, etc.), Tin/Tin Oxides, Lead and organic materials.
- **Hazardous decomposition products:** Sodium Oxides.

*** 11 Toxicological information**

- **Information on toxicological effects**
- **Acute toxicity:**

| | | |
|---------------------------------------------------------------|------|------------------|
| · LD/LC50 values that are relevant for classification: | | |
| 1310-73-2 Sodium Hydroxide | | |
| Oral | LD50 | 2000 mg/kg (rat) |

(Contd. on page 6)

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Issue date 06/03/2015

Reviewed on 06/03/2015

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- **Primary irritant effect:**
- **on the skin:** Strong caustic effect on skin and mucous membranes.
- **on the eye:**
Corrosive effect.
Causes serious eye irritation.
- **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:
Corrosive
Swallowing will lead to a corrosive effect on mouth and throat and to the danger of perforation of esophagus and stomach.
- **Carcinogenic categories**
- **IARC (International Agency for Research on Cancer)**
Group 1 - Carcinogenic to humans
Group 2A - Probably carcinogenic to humans
Group 2B - Possibly carcinogenic to humans
Group 3 - Not classifiable as to its carcinogenicity to humans
Group 4 - Probably not carcinogenic to humans

None of the ingredients are listed.

· **NTP (National Toxicology Program)**

None of the ingredients are listed.

· **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients are listed.

* **12 Ecological information**

- **Toxicity** The hazards for the aquatic environment are unknown.
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
Must not reach bodies of water or drainage ditch undiluted or unneutralized.
Rinse off of bigger amounts into drains or the aquatic environment may lead to increased pH-values. A high pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably reduced, so that after the use of the product the aqueous waste, emptied into drains, is only low water-dangerous.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

* **13 Disposal considerations**

- **Waste treatment methods**
- **Recommendation:**
Observe all federal, state and local environmental regulations when disposing of this material.
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

(Contd. on page 7)

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- **Uncleaned packagings:**
- **Recommendation:**
Dispose of as unused product.
Disposal must be made according to official regulations.

*** 14 Transport information**

- **UN-Number**
- **DOT, ADR, IMDG, IATA**
- **UN proper shipping name**
- **DOT**
- **ADR**
- **IMDG, IATA**
- **Transport hazard class(es)**
- **DOT**



- **Class**
- **Label**

UN3266
Corrosive liquid, basic, inorganic, n.o.s. (Sodium Hydroxide)
UN3266 Corrosive liquid, basic, inorganic, n.o.s. (Sodium Hydroxide)
CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. (Sodium Hydroxide)

8 Corrosive substances
8

- **ADR**



- **Class**
- **Label**

8 (C5) Corrosive substances
8

- **IMDG, IATA**



- **Class**
- **Label**
- **Packing group**
- **DOT, ADR, IMDG, IATA**
- **Environmental hazards:**
- **Special precautions for user**
- **Danger code (Kemler):**
- **EMS Number:**
- **Segregation groups**
- **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

8 Corrosive substances
8
I
Not applicable.
Warning: Corrosive substances
88
F-A,S-B
Alkalis
Not applicable.

(Contd. on page 8)

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Trade name: Cyanide ISE Ionic Strength Adjuster Solution**· Transport/Additional information:****· DOT****· Quantity limitations**

On passenger aircraft/rail: 0.5 L

On cargo aircraft only: 2.5 L

· ADR**· Excepted quantities (EQ)**

Code: E0

Not permitted as Excepted Quantity

· IMDG**· Limited quantities (LQ)**

0

· Excepted quantities (EQ)

Code: E0

Not permitted as Excepted Quantity

· UN "Model Regulation":

UN3266, Corrosive liquid, basic, inorganic, n.o.s. (Sodium Hydroxide), 8, I

*** 15 Regulatory information****· Safety, health and environmental regulations/legislation specific for the substance or mixture****· Sara****· Section 355 (extremely hazardous substances):**

None of the ingredients are listed.

· Section 313 (Specific toxic chemical listings):

None of the ingredients are listed.

· TSCA (Toxic Substances Control Act):

All ingredients are listed.

· California Proposition 65**· Chemicals known to cause cancer:**

None of the ingredients are listed.

· Chemicals known to cause reproductive toxicity for females:

None of the ingredients are listed.

· Chemicals known to cause reproductive toxicity for males:

None of the ingredients are listed.

· Chemicals known to cause developmental toxicity:

None of the ingredients are listed.

· Carcinogenic categories**· EPA (Environmental Protection Agency)**

None of the ingredients are listed.

· TLV (Threshold Limit Value established by ACGIH)

None of the ingredients are listed.

· NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients are listed.

· GHS label elements

The product is classified and labeled according to the Globally Harmonized System (GHS).

(Contd. on page 9)

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Trade name: Cyanide ISE Ionic Strength Adjuster Solution**· Hazard pictograms**

GHS05

· Signal word Danger**· Hazard-determining components of labeling:**

Sodium Hydroxide

· Hazard statements

Causes severe skin burns and eye damage.

· Precautionary statements

Do not breathe dusts or mists.

Wear eye protection / face protection.

Wash thoroughly after handling.

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Immediately call a poison center/doctor.

Specific treatment (see supplementary first aid instructions on this Safety Data Sheet).

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

Wash contaminated clothing before reuse.

If swallowed: Rinse mouth. Do NOT induce vomiting.

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

· National regulations:

The product is subject to be classified according with the latest version of the regulations on hazardous substances.

· State Right to Know

| | | | |
|-----------|-----------------------------------------|-----------------------------------------------------------------------------------------------------------|--------|
| 7732-18-5 | water, distilled water, deionized water | | 70-90% |
| 1310-73-2 | Sodium Hydroxide |  Skin Corr. 1A, H314 | 25-50% |

All ingredients are listed.

· Chemical safety assessment: A Chemical Safety Assessment has not been carried out.**16 Other information**

The information and recommendations in this safety data sheet are, to the best of our knowledge, accurate as of the date of issue. Nothing herein shall be deemed to create warranty, expressed or implied, and shall not establish a legally valid contractual relationship. It is the responsibility of the user to determine applicability of this information and the suitability of the material or product for any particular purpose.

· Date of preparation / last revision 06/03/2015 / -**· Abbreviations and acronyms:**

ADR: The European Agreement concerning the International Carriage of Dangerous Goods by Road

ADN: The European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

(Contd. on page 10)

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Trade name: Cyanide ISE Ionic Strength Adjuster Solution

HMIS: Hazardous Materials Identification System (USA)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

Skin Corr. 1A: Skin corrosion/irritation, Hazard Category 1A

Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1

· *** Data compared to the previous version altered.**

YSI sells this product under agreement with the original manufacturer. YSI assumes no legal liability or responsibility for the accuracy, completeness or usefulness of any information set forth in this MSDS.